7. (Amended) The catalyst for polymerization of olefins as claimed in Claim 1, wherein three R^1's are all phenyl groups.

8. (Amended) The catalyst for polymerization of olefins as claimed in Claim 1, wherein R^2 is an alkyl group having at least 2 carbon atoms.

9. (Amended) The catalyst for polymerization of olefins as claimed in Claim 1, wherein Z is aluminium.

10. (Amended) The catalyst for polymerization of olefins as claimed in Claim 1, wherein the transition metal compound (A) is represented by any of the following general formulae (I-2) to (I-6):

$$Q^1_a(C_5H_{5-a-b}R^8_b)(C_5H_{5-a-c}R^9_c)M^1X^1Y^1 \qquad \text{(I-2)}$$

$$Q^2_a(C_5H_{5-a-d}R^{10}_d)Z^1M^1X^1Y^1 \qquad \text{(I-3)}$$

$$(C_5H_{5-e}R^{11}_e)M^1X^1Y^1W^1 \qquad \text{(I-4)}$$

$$M^1X^1Y^1W^1U^1 \qquad \text{(I-5)}$$

$$L^1L^2M^2X^1Y^1 \qquad \text{(I-6)}$$

in which Q^1 represents a bonding group that crosslinks the two conjugated five-membered cyclic ligands $(C_5H_{5-a-b}R^8_b)$ and $(C_5H_{5-a-c}R^9_c)$; Q^2 represents a bonding group that crosslinks the conjugated five-membered cyclic ligand $(C_5H_{5-a-d}R^{10}_d)$ and the group Z^1; R^8, R^9, R^{10} and R^{11} each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group, or a boron-containing hydrocarbon group; and a plurality of these groups, if any, may be the same or different, and may be bonded to each other to form a cyclic structure; a represents 0, 1 or 2; b, c and d each represent an integer of from 0 to 5 when a = 0, or an integer of from 0 to 4 when a = 1, or an integer of from 0 to 3 when a = 2; e is an integer of from 0 to 5; M^1 represents a transition metal of Groups 4 to 6 of the Periodic

Table; M^2 represents a transition metal of Groups 8 to 10 of the Periodic Table; L^1 and L^2 each represent a coordination-bonding ligand; X^1, Y^1, Z^1, W^1 and U^1 each represent a covalent-bonding or ionic-bonding ligand; and L^1, L^2, X^1, Y^1, Z^1, W^1 and U^1 may be bonded to each other to form a cyclic structure.

12. (Amended) A method for producing olefinic polymers, which comprises polymerizing olefins in the presence of the polymerization catalyst of Claim 1.

17. (Amended) The catalyst for polymerization of olefins as claimed in Claim 13, wherein at least one of three R^{31}'s is an aromatic hydrocarbon group having from 6 to 30 carbon atoms.

18. (Amended) The catalyst for polymerization of olefins as claimed in Claim 13, wherein three R^{31}'s are all aromatic hydrocarbon groups each having from 6 to 30 carbon atoms.

19. (Amended) The catalyst for polymerization of olefins as claimed in Claim 13, wherein three R^{31}'s are all phenyl groups.

20. (Amended) The catalyst for polymerization of olefins as claimed in Claim 13, wherein R^{32} is an alkyl group having at least 2 carbon atoms.

21. (Amended) The catalyst for polymerization of olefins as claimed in Claim 15, wherein Z is aluminium.

22. (Amended) The catalyst for polymerization of olefins as claimed in Claim 13, wherein the transition metal compound (A) is represented by any of the following general formulae (II-2) to (II-6):

$$Q^{21}{}_a(C_5H_{5-a-b}R^{38}{}_b)(C_5H_{5-a-c}R^{39}{}_c)M^{21}X^{21}Y^2 \qquad \text{(II-2)}$$

$$Q^{21}{}_a(C_5H_{5-a-d}R^{40}{}_d)Z^{21}M^{21}X^{21}Y^{21} \qquad \text{(II-3)}$$

$$(C_5H_{5-e}R^{41}{}_e)M^{21}X^{21}Y^{21}W^{21} \qquad \text{(II-4)}$$

$M^{21}X^{21}Y^{21}W^{21}U^{21}$ (II-5)

$L^{21}L^{22}M^{22}X^{21}Y^{21}$ (II-6)

in which Q^{21} represents a bonding group that crosslinks the two conjugated five-membered cyclic ligands ($C_5H_{5-a-b}R^{38}_b$) and ($C_5H_{5-a-c}R^{39}_c$); Q^{22} represents a bonding group that crosslinks the conjugated five-membered cyclic ligand ($C_5H_{5-a-d}R^{40}_d$) and the group Z^{21}; R^{38}, R^{39}, R^{40} and R^{41} each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group, or a boron-containing hydrocarbon group; and a plurality of these groups, if any, may be the same or different, and may be bonded to each other to form a cyclic structure; a represents 0, 1 or 2; b, c and d each represent an integer of from 0 to 5 when a = 0, or an integer of from 0 to 4 when a = 1, or an integer of from 0 to 3 when a = 2; e is an integer of from 0 to 5; M^{21} represents a transition metal of Groups 4 to 6 of the Periodic Table; M^{22} represents a transition metal of Groups 8 to 10 of the Periodic Table; L^{21} and L^{22} each represent a coordination-bonding ligand; X^{21}, Y^{21}, Z^{21}, W^{21} and U^{21} each represent a covalent-bonding or ionic-bonding ligand; and L^{21}, L^{22}, X^{21}, Y^{21}, Z^{21}, W^{21} and U^{21} may be bonded to each other to form a cyclic structure.

24. (Amended) A method for producing olefinic polymers, which comprises polymerizing olefins in the presence of the polymerization catalyst of Claim 13.

Please add new Claims 25-40 as follows:

25. (New) The catalyst for polymerization of olefins as claimed in Claim 4, wherein at least one of three R^{11}s is an aromatic hydrocarbon group having from 6 to 30 carbon atoms.

26. (New) The catalyst for polymerization of olefins as claimed in Claim 4, wherein three R^{11}s are all aromatic hydrocarbon groups each having from 6 to 30 carbon atoms.

27. (New) The catalyst for polymerization of olefins as claimed in Claim 4, wherein three R^1's are all phenyl groups.

28. (New) The catalyst for polymerization of olefins as claimed in Claim 4, wherein R^2 is an alkyl group having at least 2 carbon atoms.

29. (New) The catalyst for polymerization of olefins as claimed in Claim 4, wherein Z is aluminium.

30. (New) The catalyst for polymerization of olefins as claimed in Claim 4, wherein the transition metal compound (A) is represented by any of the following general formulae (I-2) to (I-6):

$$Q^1{}_a(C_5H_{5-a-b}R^8{}_b)(C_5H_{5-a-c}R^9{}_c)M^1X^1Y^1 \qquad \text{(I-2)}$$

$$Q^2{}_a(C_5H_{5-a-d}R^{10}{}_d)Z^1M^1X^1Y^1 \qquad \text{(I-3)}$$

$$(C_5H_{5-e}R^{11}{}_e)M^1X^1Y^1W^1 \qquad \text{(I-4)}$$

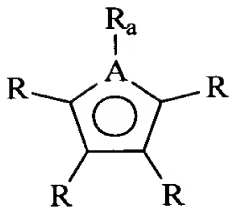
$$M^1X^1Y^1W^1U^1 \qquad \text{(I-5)}$$

$$L^1L^2M^2X^1Y^1 \qquad \text{(I-6)}$$

in which Q^1 represents a bonding group that crosslinks the two conjugated five-membered cyclic ligands $(C_5H_{5-a-b}R^8{}_b)$ and $(C_5H_{5-a-c}R^9{}_c)$; Q^2 represents a bonding group that crosslinks the conjugated five-membered cyclic ligand $(C_5H_{5-a-d}R^{10}{}_d)$ and the group Z^1; R^8, R^9, R^{10} and R^{11} each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group, or a boron-containing hydrocarbon group; and a plurality of these groups, if any, may be the same or different, and may be bonded to each other to form a cyclic structure; a represents 0, 1 or 2; b, c and d each represent an integer of from 0 to 5 when a = 0, or an integer of from 0 to 4 when a = 1, or an integer of from 0 to 3 when a = 2; e is an integer of from 0 to 5; M^1 represents a transition metal of Groups 4 to 6 of the Periodic

Table; M^2 represents a transition metal of Groups 8 to 10 of the Periodic Table; L^1 and L^2 each represent a coordination-bonding ligand; X^1, Y^1, Z^1, W^1 and U^1 each represent a covalent-bonding or ionic-bonding ligand; and L^1, L^2, X^1, Y^1, Z^1, W^1 and U^1 may be bonded to each other to form a cyclic structure.

31. (New) The catalyst for polymerization of olefins as claimed in Claim 30, wherein, in the transition metal compound (A) of formula (I-4), the group $(C_5H_{5-e}R^{11}_e)$ is represented by any of the following general formulae (I) to (VII):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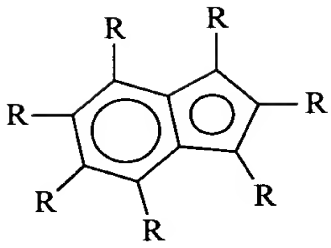
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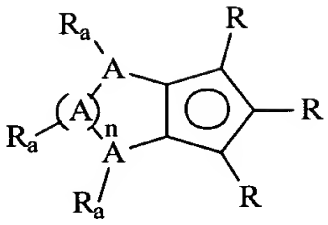
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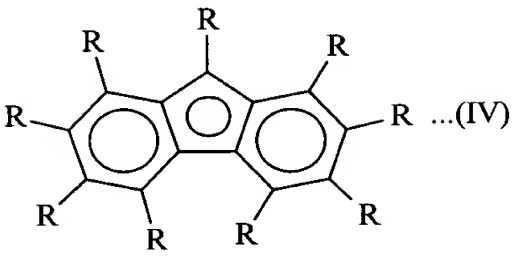
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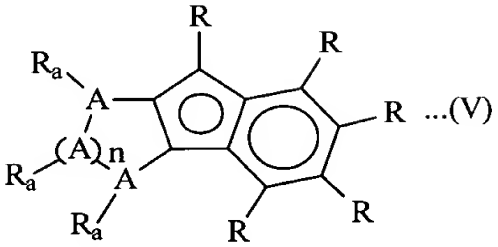
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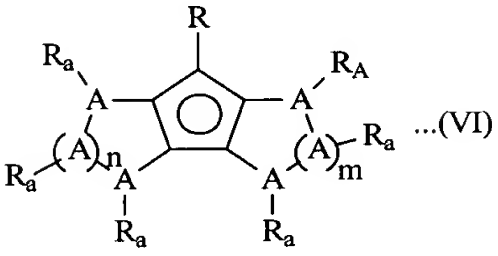
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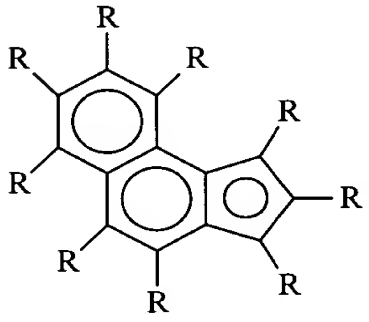

...(VII)

wherein A represents an element of Group 13, 14, 15 or 16, and plural A's may be the same or different; R represents a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30

carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, a carboxyl group, or an alkylsilyl or akylsilylalkyl group having from 3 to 30 carbon atoms, and R's may be the same or different, and may be optionally bonded to each other to form a cyclic structure; a represents 0, 1 or 2; and n and m each represent an integer of at least 1.

32. (New) A method for producing olefinic polymers, which comprises polymerizing olefins in the presence of the polymerization catalyst of Claim 4.

33. (New) The catalyst for polymerization of olefins as claimed in Claim 16, wherein at least one of three R^{31}'s is an aromatic hydrocarbon group having from 6 to 30 carbon atoms.

34. (New) The catalyst for polymerization of olefins as claimed in Claim 16, wherein three R^{31}'s are all aromatic hydrocarbon groups each having from 6 to 30 carbon atoms.

35. (New) The catalyst for polymerization of olefins as claimed in Claim 16, wherein three R^{31}'s are all phenyl groups.

36. (New) The catalyst for polymerization of olefins as claimed in Claim 16, wherein R^{32} is an alkyl group having at least 2 carbon atoms.

37. (New) The catalyst for polymerization of olefins as claimed in Claim 16, wherein Z is aluminium.

38. (New) The catalyst for polymerization of olefins as claimed in Claim 16, wherein the transition metal compound (A) is represented by any of the following general formulae (II-2) to (II-6):

$$Q^{21}{}_a(C_5H_{5-a-b}R^{38}{}_b)(C_5H_{5-a-c}R^{39}{}_c)M^{21}X^{21}Y^{21} \qquad \text{(II-2)}$$

$Q^{21}{}_a(C_5H_{5-a-d}R^{40}{}_d)Z^{21}M^{21}X^{21}Y^{21}$ (II-3)

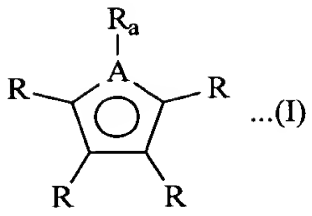
$(C_5H_{5-e}R^{41}{}_e)M^{21}X^{21}Y^{21}W^{21}$ (II-4)

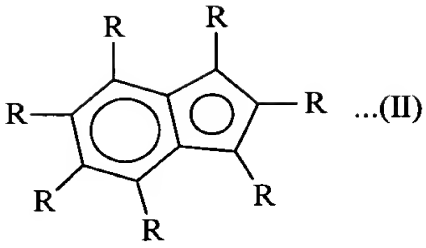
$M^{21}X^{21}Y^{21}W^{21}U^{21}$ (II-5)

$L^{21}L^{22}M^{22}X^{21}Y^{21}$ (II-6)

in which Q^{21} represents a bonding group that crosslinks the two conjugated five-membered cyclic ligands $(C_5H_{5-a-b}R^{38}{}_b)$ and $(C_5H_{5-a-c}R^{39}{}_c)$; Q^{22} represents a bonding group that crosslinks the conjugated five-membered cyclic ligand $(C_5H_{5-a-d}R^{40}{}_d)$ and the group Z^{21}; R^{38}, R^{39}, R^{40} and R^{41} each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group, or a boron-containing hydrocarbon group; and a plurality of these groups, if any, may be the same or different, and may be bonded to each other to form a cyclic structure; a represents 0, 1 or 2; b, c and d each represent an integer of from 0 to 5 when a = 0, or an integer of from 0 to 4 when a = 1, or an integer of from 0 to 3 when a = 2; e is an integer of from 0 to 5; M^{21} represents a transition metal of Groups 4 to 6 of the Periodic Table; M^{22} represents a transition metal of Groups 8 to 10 of the Periodic Table; L^{21} and L^{22} each represent a coordination-bonding ligand; X^{21}, Y^{21}, Z^{21}, W^{21} and U^{21} each represent a covalent-bonding or ionic-bonding ligand; and L^{21}, L^{22}, X^{21}, Y^{21}, Z^{21}, W^{21} and U^{21} may be bonded to each other to form a cyclic structure.

39. (New) The catalyst for polymerization of olefins as claimed in Claim 38, wherein, in the transition metal compound (A) of formula (II-4), the group $(C_5H_{5-e}R^{41}{}_e)$ is represented by any of the following general formulae (I) to (VII):


...(I)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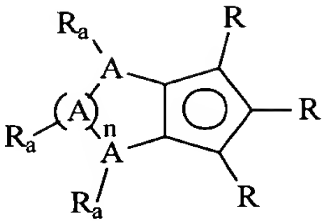
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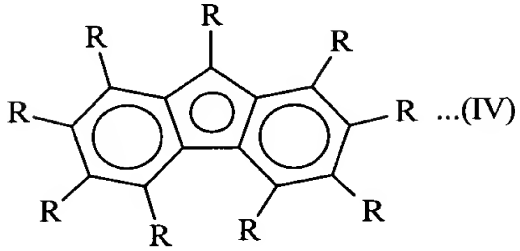
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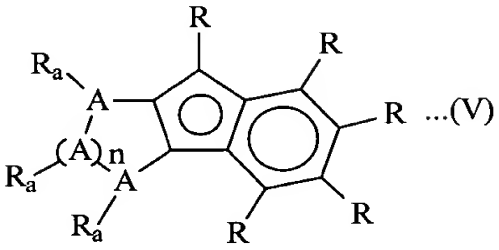
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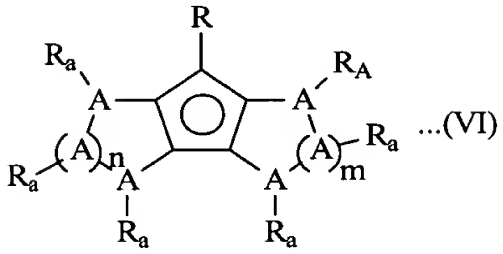
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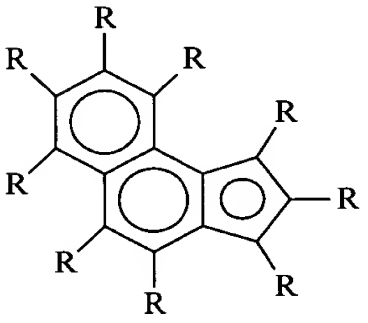
...(VII)

wherein A represents an element of Group 13, 14, 15 or 16, and plural A's may be the same or different; R represents a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a